

Title (en)  
Light-emitting device

Title (de)  
Lichtemittierende Vorrichtung

Title (fr)  
Dispositif émetteur de lumière

Publication  
**EP 1039561 A2 20000927 (EN)**

Application  
**EP 00105920 A 20000323**

Priority  
JP 7786999 A 19990323

Abstract (en)  
The light-emitting device has a substrate, an anode, an organic light-emitting layer, a cathode, a first and second gratings (optical sections). The first grating has a one-dimensional periodic refractive index distribution in the X direction and is capable of forming a photonic band gap. The second grating has a one-dimensional periodic refractive index distribution in the Y direction and is capable of forming a photonic band gap. A defect section is provided either for the first or second grating. This defect section is designed so that the energy level caused by the defect is within a prescribed emission spectrum. The organic light-emitting layer can emit light by electrically pumping, and an electric field is produced by the anode and cathode. The light-emitting device utilizes a two-dimensional photonic band gap and produces light with an extremely narrow spectral width at very high efficiency. <IMAGE>

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**H01L 51/20**; **H01S 5/10**

IPC 8 full level  
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CPC (source: EP KR US)  
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Cited by  
EP1540784A4; US8013514B2; EP1436867A4; EP1605285A4; GB2390215A; GB2390215B; US7421176B2; US7260300B2; US7319709B2; WO03058307A3; WO03079071A1

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